General

Guideline Title

Occupational therapy practice guidelines for cancer rehabilitation with adults.

Bibliographic Source(s)

Braveman B, Hunter EG. Occupational therapy practice guidelines for cancer rehabilitation with adults. Bethesda (MD): American Occupational Therapy Association, Inc. (AOTA); 2017. 67 p. [283 references]

Guideline Status

This is the current release of the guideline.

This guideline meets NGC's 2013 (revised) inclusion criteria.

NEATS Assessment

National Guideline Clearinghouse (NGC) has assessed this guideline's adherence to standards of trustworthiness, derived from the Institute of Medicine's report Clinical Practice Guidelines We Can Trust.

= Poor = Fair = Good = Very Good = Excellent

Assessment	Standard of Trustworthiness
YES	Disclosure of Guideline Funding Source
	Disclosure and Management of Financial Conflict of Interests
	Guideline Development Group Composition
UNKNOWN	Multidisciplinary Group
YES	Methodologist Involvement
	Patient and Public Perspectives

	Use of a Systematic Review of Evidence
	Search Strategy
	Study Selection
	Synthesis of Evidence
	Evidence Foundations for and Rating Strength of Recommendations
	Grading the Quality or Strength of Evidence
	Benefits and Harms of Recommendations
	Evidence Summary Supporting Recommendations
	Rating the Strength of Recommendations
	Specific and Unambiguous Articulation of Recommendations
	External Review
	Updating

Recommendations

Major Recommendations

Note from the National Guideline Clearinghouse: In addition to the evidence-based recommendations below, the guideline includes extensive information on the evaluation process and intervention strategies for adults with cancer.

Definitions for the strength of recommendations (A–D, I) and levels of evidence (I–V) are provided at the end of the "Major Recommendations" field.

Recommendations for Occupational Therapy Interventions for Adults with Cancer

Interventions in Multidisciplinary Rehabilitation

Multidisciplinary rehabilitation programs are beneficial to improve function and participation regardless of stage of cancer or age of the cancer survivor (A)
Multidisciplinary rehabilitation programs are beneficial pre- and posttreatment (B)
Multimodal interventions, including aquatic therapy and other exercise, are beneficial for breast cancer survivors (B)
Cognitive-behavioral therapy programs improve quality of life (QOL) and attention abilities (B)
Rehabilitation in advanced, progressive, recurrent cancer improves QOL and is cost effective (B)
Rehabilitation with outcome focused on single domain is more effective than rehabilitation with multiple domains (C)
Rehabilitation that consists of telephone-delivered, problem-solving skills provided to rural breast cancer patients undergoing chemotherapy improves function and QOL (C)

Interventions That Address Symptom Management

Physical activity and exercise to reduce cancer-related fatigue and improve QOL results in no adverse effects such as increased fatigue or falls (A)
Problem-solving, energy conservation, and education to reduce breathlessness (A)
Sleep behavior modification, education, and problem solving for pain management (B)
Cognitive–behavioral therapy for cancer-related fatigue (B)

Interventions That Address Psychosocial Needs

Cognitive–behavioral and educational intervention to reduce anxiety and reduce depression in the short term (3 months) (A)
Mindfulness therapy to reduce symptoms of anxiety and depression (A)
Short-term life review to improve spiritual well-being for those with terminal cancer (B)
Group stress management to improve psychosocial adjustment in breast cancer survivors (B)
Problem-solving therapy by phone to improve QOL and reduce stress for women with breast cancer (B)
Cognitive–behavioral therapy to improve QOL and decrease limitations from symptoms during chemotherapy and during advanced-stage cancer (B)
Structured multidisciplinary QOL and self-management interventions to improve QOL for older survivors (B)
Expressive writing activities to improve QOL for early-stage breast cancer survivors (B)

Interventions That Address Physical Activity

Physical activity to improve QOL; reduce cancer-related fatigue; and increase muscle tone, strength, and lung capacity (A)
Physical activity is safe and feasible for the majority of cancers, stages of cancer, and ages of survivors and provides physiological and psychological benefits (A)
Physical activity to improve health-related quality of life (HRQOL) (B)
Physical activity to improve sleep quality during cancer treatment (B)
Physical activity to increase sexual activity (B)
Counseling added to physical activity to maintain participation in exercise (B)
Combining diet and exercise to reduce functional decline (B)

Interventions That Address Lymphedema Management

Compression bandages worn daily to maintain volume control (A)
Compression bandages combined with therapy that includes skin care, range of motion (ROM), and strengthening to maintain volume control (A)
Exercise to increase ROM, QOL, and weight loss does not exacerbate lymphedema (A)
Low-frequency, low-intensity electrotherapy to reduce feelings of pain, heaviness, and tightness when treating lymphedema (B)
Low-frequency, low-intensity electrotherapy to reduce lymphedema volume (C)
Aqua lymphatic therapy to reduce lymphedema volume (C)
Manual lymph drainage and self-management alone to reduce lymphedema volume (C)

Interventions That Address Complementary Health Approaches and Integrative Health (CHAIH)

Mindfulness-based interventions to improve QOL and reduce anxiety, depression, and stress (B)
Yoga to improve QOL and well-being and reduce stress and the use of sleep medication (B)
Qigong to improve QOL, mood, and immune responses and to reduce fatigue and inflammation (B)
Dance/movement therapies to improve QOL for women with breast cancer (C)
Dance/movement therapies to improve physical health in women with breast cancer (I)

Interventions That Use Physical Agent Modalities (PAMs)

Neuromuscular electrical stimulation (NMES) combined with traditional swallowing training to reduce dysphagia following treatment for head and neck cancer (A)
Low-frequency, low-intensity electrotherapy to reduce feelings of pain, heaviness, and tightness

when treating lymphedema of the upper extremity (B)
Low-frequency, low-intensity electrotherapy to reduce lymphedema volume (C)
Transcutaneous electrical nerve stimulation (TENS) for cancer-related pain (C)

Interventions That Address Sexuality

Physical training (strength, interval, and home-based activities) to improve interest in sex and sexual activity among male prostate cancer survivors (A)
Couples-based psychosocial interventions to reduce sexual problems after cancer diagnosis and treatment (C)

Interventions That Address Return to Work

Multidisciplinary interventions (physical, psychological, and vocational) to improve return to work (B)
Rehabilitation using high-intensity physical training (strength, interval, and home-based activity) to limit reduction in ability to work (B)
Occupational therapy focusing on vocational and social rehabilitation to improve QOL and return to work for breast cancer survivors (C)

Definitions

Strength of Recommendations

A–There is strong evidence that occupational therapy practitioners should routinely provide the intervention to eligible clients. Good evidence was found that the intervention improves important outcomes and concludes that benefits substantially outweigh harm.

B–There is moderate evidence that occupational therapy practitioners should routinely provide the intervention to eligible clients. There is high certainty that the net benefit is moderate, or there is moderate certainty that the net benefit is moderate to substantial.

C–There is weak evidence that the intervention can improve outcomes. It is recommended that the intervention be provided selectively on the basis of professional judgment and patient preferences. There is at least moderate certainty that the net benefit is small.

I–There is insufficient evidence to determine whether or not occupational therapy practitioners should be routinely providing the intervention. Evidence that the intervention is effective is lacking, of poor quality, or conflicting and the balance of benefits and harm cannot be determined.

D–It is recommended that occupational therapy practitioners do not provide the intervention to eligible clients. At least fair evidence was found that the intervention is ineffective or that harm outweighs benefits.

Note: Criteria for level of evidence and recommendations (A, B, C, I, D) are based on standard language from the U.S. Preventive Services Task Force (2016). Suggested recommendations are based on the available evidence and content experts' clinical expertise regarding the value of using such evidence.

Levels of Evidence for Occupational Therapy Outcomes Research

Levels of Evidence	Definition
Level I	Systematic reviews, meta-analyses, and randomized, controlled trials
Level II	Two groups, nonrandomized studies (e.g., cohort, case control)
Level III	One group, nonrandomized (e.g., before-after, pretest and posttest)
Level IV	Descriptive studies that include analysis of outcomes (e.g., single-subject design, case series)
Level V	Case reports and expert opinions, which include narrative literature reviews and consensus statements

Note: Adapted from "Evidence-based medicine: What it is and what it isn't." D. L. Sackett, W. M. Rosenberg, J. A. Muir Gray, R. B. Haynes, & W. S. Richardson, 1996, *British Medical Journal, 312*, pp. 71-72.

Clinical Algorithm(s)

None provided

Scope

Disease/Condition(s)

Cancer and secondary conditions related to cancer and its treatment including:

- Cancer-related fatigue
- Deconditioning
- Cancer-related cognitive dysfunction
- Cancer-induced neuropathy
- Cancer-related pain
- Cardiovascular and pulmonary considerations
- Graft versus host disease
- Lymphedema
- Postsurgical complications
- Psychosocial issues: body image, depression, and anxiety

Guideline Category

Counseling

Management

Rehabilitation

Treatment

Clinical Specialty

Nursing

Oncology

Physical Medicine and Rehabilitation

Psychiatry

Psychology

Radiation Oncology

Speech-Language Pathology

Surgery

Intended Users

Advanced Practice Nurses

Allied Health Personnel

Dietitians

Hospitals

Nurses

Occupational Therapists

Physical Therapists

Physician Assistants

Physicians

Psychologists/Non-physician Behavioral Health Clinicians

Speech-Language Pathologists

Guideline Objective(s)

- To provide an overview, on the basis of existing evidence of the effects of various interventions, of occupational therapy interventions for individuals with cancer who are undergoing rehabilitation
- To help guide future decisions on areas for research by highlighting areas in which promising interventions may lack enough evidence of a clear benefit or in which available interventions fail to meet specific needs of clients with cancer
- To be useful to many entities involved in providing occupational therapy services to individuals with cancer, such as occupational therapy practitioners, team members, educators, clients, families, caregivers, third-party payers, and policymakers

Target Population

Adults with cancer

Interventions and Practices Considered

1. Interventions in multidisciplinary rehabilitation
2. Interventions that address symptom management
3. Interventions that address psychosocial needs
4. Interventions that address physical activity
5. Interventions that address lymphedema management
6. Interventions that address complementary health approaches and integrative health
7. Interventions that use physical agent modalities
8. Interventions that address sexuality
9. Interventions that address return to work

Major Outcomes Considered

Effectiveness of interventions as determined by:

Performance of activities of daily living and instrumental activities of daily living
Return to work
Participation in leisure and social activities
Symptom and complications management

Methodology

Methods Used to Collect/Select the Evidence

Hand-searches of Published Literature (Primary Sources)

Hand-searches of Published Literature (Secondary Sources)

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

The systematic review sought to answer the following question: What is the effectiveness of cancer rehabilitation interventions within the scope of occupational therapy practice to address the activity and participation needs of adult cancer survivors in activities of daily living, instrumental activities of daily living, work, leisure, social participation, and rest and sleep?

Method

Search terms for the review were developed by the methodology consultant to the American Occupational Therapy Association (AOTA) Evidence-based Practice (EBP) Project and AOTA staff, in consultation with the review authors of the question and the advisory group. The search terms were developed not only to capture pertinent articles but also to make sure that the terms relevant to the specific thesaurus of each database were included. Table D.1 in the original guideline document lists the search terms related to population (adults with cancer), types of intervention, outcomes, sequelae, and types of study design included in the systematic review. A medical research librarian with experience in completing systematic review searches conducted all searches and confirmed and improved the search strategies.

Databases and sites searched included MEDLINE, PsycINFO, CINAHL, and OTseeker. In addition, consolidated information sources, such as the Cochrane Database of Systematic Reviews, were included in the search. These databases are peer-reviewed summaries of journal articles and provide a system for clinicians and scientists to conduct systematic reviews of selected clinical questions and topics. Reference lists from articles included in the systematic reviews were examined for potential articles, and selected journals were hand searched to ensure that all appropriate articles were included.

Inclusion and exclusion criteria are critical to the systematic review process because they provide the structure for the quality, type, and years of publication of the literature that is incorporated into a review. Included articles were peer-reviewed scientific literature on participants with cancer published in English between 1995 and 2014 and within the scope of practice of occupational therapy. The review excluded data from presentations, conference proceedings, non–peer-reviewed research literature, dissertations, and theses. The review also excluded studies focusing on caregivers, family members, and friends, rather than on cancer survivors, and studies of childhood cancer. Studies included in the review provide Level I, II, and III evidence. Level IV evidence was included only when higher level evidence on a given topic was not found; no Level V studies were included.

Selection of Articles

A total of 8,436 citations and abstracts were identified through searches of databases and reference lists of articles included in the review. Removal of duplicates left 6,717 citations and abstracts. The three-person review team completed the step of eliminating references on the basis of citations and abstracts. A total of 945 full-text articles remained and were retrieved. After the initial full-text review, the articles were reduced to 437, which received an in-depth full review.

Number of Source Documents

The 138 articles included in the final review included 129 Level I, 4 Level II, 4 Level III, and 1 Level IV studies.

Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

Levels of Evidence for Occupational Therapy Outcomes Research

Levels of Evidence	Definition
Level I	Systematic reviews, meta-analyses, and randomized, controlled trials
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Level III	One group, nonrandomized (e.g., before-after, pretest and posttest)
Level IV	Descriptive studies that include analysis of outcomes (e.g., single-subject design, case series)
Level V	Case reports and expert opinions, which include narrative literature reviews and consensus statements

Note: Adapted from "Evidence-based medicine: What it is and what it isn't." D. L. Sackett, W. M. Rosenberg, J. A. Muir Gray, R. B. Haynes, & W. S. Richardson, 1996, *British Medical Journal, 312*, pp. 71-72.

Methods Used to Analyze the Evidence

Review of Published Meta-Analyses

Systematic Review with Evidence Tables

Description of the Methods Used to Analyze the Evidence

The team working on the focused question reviewed the articles according to their quality (scientific rigor and lack of bias) and levels of evidence. Each article included in the review was abstracted using an evidence table that provides a summary of the methods and findings of the article. The American Occupational Therapy Association (AOTA) staff and the Evidence-Based Practice (EBP) Project consultant reviewed the evidence tables to ensure quality control. All studies are summarized in full in the evidence tables in Appendix E in the original guideline document.

The risk of bias of individual studies was assessed using the methods described by Higgins, Altman, and Sterne (2011). The method for assessing the risk of bias of systematic reviews was based on the measurement tool developed by Shea et al. (2007). An analysis of the articles included in the systematic review that served as the basis of this practice guideline was completed using risk-of-bias tables (see Appendix E in the original guideline document).

Methods Used to Formulate the Recommendations

Expert Consensus

Description of Methods Used to Formulate the Recommendations

A major focus of the American Occupational Therapy Association's (AOTA's) Evidence-Based Practice (EBP) projects is an ongoing program of systematic review of multidisciplinary scientific literature, using focused questions and standardized procedures to identify practice-relevant evidence and discuss its implications for practice, education, and research. An evidence-based perspective is founded on the assumption that scientific evidence of the effectiveness of occupational therapy intervention can be judged to be more or less strong and valid according to a hierarchy of research designs, an assessment of the quality of the research, or both.

AOTA uses standards of evidence modeled on those developed in evidence-based medicine. This model standardizes and ranks the value of scientific evidence for biomedical practice using a grading system. In this system, the highest level of evidence, Level I, includes systematic reviews of the literature, meta-analyses, and randomized controlled trials (RCTs). In RCTs, participants are randomly allocated to either an intervention or a control group, and the outcomes of both groups are compared. Other levels of evidence include Level II studies, in which assignment to a treatment or a control group is not randomized (cohort study); Level III studies, which do not have a control group; Level IV studies, which use a single-case experimental design, sometimes reported over several participants; and Level V studies, which are case reports and expert opinion that include narrative literature reviews and consensus statements.

The systematic review on adults with cancer was supported by AOTA as part of the EBP Project. AOTA is committed to supporting the role of occupational therapy in this important area of practice.

The systematic review covered the period from 1995 to 2014 because occupational therapy practitioners need access to the results of the latest and best available literature to support intervention within the scope of occupational therapy practice. The question that was the basis for the review was developed by the review authors and reviewed by an advisory group of content experts in the field (occupational therapists and physician oncologists), AOTA staff, and the methodology consultant to the AOTA EBP Project.

Rating Scheme for the Strength of the Recommendations

Strength of Recommendations

A–There is strong evidence that occupational therapy practitioners should routinely provide the intervention to eligible clients. Good evidence was found that the intervention improves important outcomes and concludes that benefits substantially outweigh harm.

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Cost Analysis

Moderate evidence indicates that rehabilitation for advanced, progressive, recurrent cancer is cost-effective and increases quality of life.

Method of Guideline Validation

Peer Review

Description of Method of Guideline Validation

This Practice Guideline was reviewed by a group of content experts on cancer that included a consumer representative and policy experts.

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of supporting evidence is identified and graded for each recommendation (see the "Major Recommendations" field).

After the review process, 138 articles were included in the final review (129 Level I, 4 Level II, 4 Level III, 1 Level IV). The articles were grouped into nine broad categories related to interventions that address:

- Multidisciplinary rehabilitation programs
- Symptom management
- Psychosocial interventions
- Physical activity
- Lymphedema management
- Complementary health approaches and integrative health (CHAIH)
- Physical agent modalities
- Sexuality
- Return to work

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

This guideline may be used to assist:

- Occupational therapists and occupational therapy assistants in providing evidence-based interventions to adults with cancer
- Occupational therapists and occupational therapy assistants in communicating about their services to external audiences
- Other health care practitioners, case managers, clients, families and caregivers, and health care facility managers in determining whether referral for occupational therapy services is appropriate
- Third-party payers in determining the medical necessity for occupational therapy
- Legislators; third-party payers; federal, state, and local agencies; and administrators in

understanding the professional education, training, and skills of occupational therapists and occupational therapy assistants
Health and social services planning teams in determining the need for occupational therapy
Program developers; administrators; legislators; federal, state, and local agencies; and third-party payers in understanding the scope of occupational therapy services
Occupational therapy researchers in this practice area in determining outcome measures and defining current occupational therapy practice in order to compare the effectiveness of occupational therapy interventions
Policy and health care benefit analysts in understanding the appropriateness of occupational therapy services for adults with cancer
Policymakers, legislators, and organizations in understanding the contribution occupational therapy can make in health promotion, program development, and health care reform to support adults with cancer
Occupational therapy educators in designing appropriate curricula that incorporate the role of occupational therapy with adults with cancer.

Potential Harms

The studies that met the inclusion criteria for the systematic review did not explicitly report potential adverse events associated with the interventions evaluated in these studies. If harms were noted, they would have been explicitly reported in the summary of key findings and would have been taken into account in the determination of the recommendations.

Before implementing any new intervention with a client, it is always prudent for occupational therapy practitioners to be aware of the potential benefits and harms of the intervention. Clinical reasoning based on a sound evaluation of the client's strengths and limitations and an understanding of the intervention should be exercised to determine the potential benefits and harms of an intervention for an individual patient. Finally, clinical reasoning is also required to translate the intervention protocols used in the studies reviewed into client-centered, clinically feasible interventions.

Contraindications

Contraindications

Laboratory values outside the commonly accepted normal ranges may be a contraindication for involvement in occupational therapy intervention.

Qualifying Statements

Qualifying Statements

- This guideline does not discuss all possible methods of care, and although it does recommend some specific methods of care, the occupational therapist makes the ultimate judgment regarding the appropriateness of a given intervention in light of a specific person's or group's circumstances and needs and the evidence available to support the intervention.
- This publication is designed to provide accurate and authoritative information in regard to the subject matter covered. It is sold or distributed with the understanding that the publisher is not engaged in rendering legal, accounting, or other professional service. If legal advice or other expert assistance is required, the services of a competent professional person should be sought.
- It is the objective of the American Occupational Therapy Association to be a forum for free expression and interchange of ideas. The opinions expressed by the contributors to this work are

their own and not necessarily those of the American Occupational Therapy Association.

Implementation of the Guideline

Description of Implementation Strategy

An implementation strategy was not provided.

Implementation Tools

Chart Documentation/Checklists/Forms

Tool Kits

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Getting Better

Living with Illness

IOM Domain

Effectiveness

Patient-centeredness

Identifying Information and Availability

Bibliographic Source(s)

Braveman B, Hunter EG. Occupational therapy practice guidelines for cancer rehabilitation with adults. Bethesda (MD): American Occupational Therapy Association, Inc. (AOTA); 2017. 67 p. [283 references]

Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2017

Guideline Developer(s)

American Occupational Therapy Association, Inc. - Professional Association

Source(s) of Funding

This guideline was commissioned, edited, and endorsed by the American Occupational Therapy Association (AOTA) without external funding being sought or obtained. The report was entirely supported financially by AOTA and was developed without any involvement of industry.

Guideline Committee

Not stated

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Financial Disclosures/Conflicts of Interest

The authors of this Practice Guideline have signed a Conflict of Interest statement indicating that they have no conflicts that would bear on this work.

Guideline Status

This is the current release of the guideline.

This guideline meets NGC's 2013 (revised) inclusion criteria.

Guideline Availability

Electronic copies: Not available at this time.

Print copies: Available for purchase from The American Occupational Therapy Association (AOTA), Inc., 4720 Montgomery Lane, Bethesda, MD 20814, Phone: 1-877-404-AOTA (2682), TDD: 800-377-8555, Fax: 301-652-7711. This guideline can also be ordered online from the AOTA Web site .

Availability of Companion Documents

The following is available:

Occupational therapy practice framework: domain and process. 3rd ed. Bethesda (MD): American

Occupational Therapy Association (AOTA); 2014. Available to order from the American Occupational Therapy Association (AOTA) Web site .

In addition, the following are available in the original guideline document:

Case studies for occupational therapy practice with adults with cancer
Selected Current Procedural Terminology (CPT)® codes for occupational therapy evaluations and interventions for adults with cancer

A variety of cancer resources are available from the AOTA Web site .

Patient Resources

None available

NGC Status

This NGC summary was completed by ECRI Institute on March 29, 2018. The information was verified by the guideline developer on May 7, 2018.

This NEATS assessment was completed by ECRI Institute on April 6, 2018. The information was verified by the guideline developer on May 7, 2018.

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